REMARKS

Applicants respectfully request reconsideration of claims 1-93. No claims are being amended, added or canceled by this response.

Interview Summary

The courtesies extended by Examiner Bahta to Applicant's representatives, Eric L. Amundsen and Lawrence M. Green, during the telephone interview of February 2, 2006 are acknowledged. Anthony Griggs, the inventor, and Kenneth Woodbine, a representative of the assignee, were also present for the telephone interview. The substance of the interview is discussed below in the response to the rejection.

Rejection Under 35 U.S.C. §102(e)

Claims 1-93 were rejected under 35U.S.C. §102(e) as being anticipated by Matsumiya et al. (U.S. Patent No. 6,671,571). This rejection is respectfully traversed.

As described by the undersigned during the interview, in conventional manufacturing systems, a tool is used to machine a workpiece, and then the workpiece is removed from the machine tool and placed in a coordinate measurement machine (CMM) for performing measurements on the workpiece. The system described in Matsumiya is one example of such a prior art manufacturing system. Figure 1 of Matsumiya shows a workpiece 30 being transferred from a machine tool 26 to a measuring machine 31 for measurement. As further support, it was noted that the text of Matsumiya states at col. 4, lines 57-61, "[w]hen the process machining for the workpiece 30 in the first chucking attitude has been completed, a measuring machine 31 executes coordinate measurement of the workpiece 30 according to the measurement program of a measurement control apparatus 32" (emphasis added). This clearly shows that a measuring machine performs coordinate measurement in the system of Matsumiya. Additionally, the undersigned pointed to Figure 9 which shows measuring machine 31 and machine tool 26 as separate components.

The undersigned contrasted the present invention, as claimed, from the prior art by noting that in the present invention, a coordinate measuring machine is not required because a machine tool

is instructed by a machine tool program to perform coordinate measurements. In this manner, a workpiece may remain on a machine tool for coordinate measurements instead of being transferred to a coordinate measuring machine.

It was pointed out that claim 1 recites, among other limitations, generating a machine tool program including instructions to control a machine tool to perform coordinate measurements. In contrast, Matsumiya teaches performing coordinate measurements only on a measuring machine. There is no teaching or suggestion whatsoever in Matsumiya to generate a machine tool program including instructions to control a machine tool to perform coordinate measurements on the machine tool, contrary to the assertion in paragraphs 2 and 3 of the Office Action dated December 2, 2006. For example, Figure 2 and the associated description in col. 7, lines 1-3 show that in one embodiment, Matsumiya describes producing a measurement program 50, and this measurement program is supplied to a measurement control apparatus 32, which, as can be seen in Figure 1, controls a measuring machine 31.

Matsumiya does not include any teaching or suggestion of generating a machine tool program from a dimensional metrology program. Matsumiya only describes machine tool programs (for machining operations) which are produced in part based on data received from a measuring machine, as illustrated in Figure 9. In Matsumiya, the measuring machine provides only data to the machine tool controller, and not a measurement program. There is no suggestions whatsoever in Matsumiya to provide a machine tool program that generates coordinate measurement data.

It is asserted in paragraph 3 of the Office Action ("Response to Arguments") that Matsumiya discloses the claimed invention, and the text in column 4, lines 57-65 is pointed to as disclosing a machine controller executing a machine tool program to produce coordinate measurement data. This interpretation of Matsumiya is incorrect. The text from column 4, lines 57-65 is informative as to which machine performs coordinate measurement in the system of Matsumiya:

> When the process machining for the workpiece 30 in the first chucking attitude has been completed, a measuring machine 31 executes coordinate measurement of the workpiece 30 according to the measurement program of a measurement control apparatus 32. The measured results are fed back to the NC program execution means 27 of the NC apparatus 25

in the next process via a measurement result analyzing means 33, and are supplied to the respective databases, 21A, 21,B, 21C, 21D, and 21E, as necessary.

Contrary to the assertion in the Office Action that this text discloses a machine tool controller executing a machine tool program to produce coordinate measurement data, lines 57-65 of column 4 describe a measurement control apparatus controlling a measuring machine 31 to perform coordinate measurement. The description is clear that a separate machine tool controller (NC program execution means 27) exists, but this machine tool controller does not execute a machine tool program to produce coordinate measurement data.

For at least the reasons discussed above, it is respectfully requested that the rejection of claim 1 and the claims dependent therefrom be withdrawn.

Dependent Claims

No dependent claims were discussed during the interview. Below we address several of the dependent claims, but we note that the features recited within these dependent claims are not necessary for distinguishing over the applied prior art of Matsumiya.

Dependent claim 2, which depends from claim 1, recites that the machine controller executes the machine tool program to produce coordinate measurement data. The machine tool controller of Matsumiya does not execute a machine tool program that produces coordinate measurement data, and there is not any suggestion to do so. The absence of such a teaching or suggestion is not surprising as Matsumiya teaches the conventional technique of using only a measuring machine to perform coordinate measurements rather than a machine tool.

Claim 3 depends from claim 2 and recites an act of communicating the coordinate measurement data to a dimensional metrology analysis module. Matsumiya does not teach or suggest communicating coordinate measurement data produced by executing a machine tool program on a machine tool controller. In Matsumiya, coordinate measurement data is sent only from a coordinate measuring machine. Claim 4, which depends from claim 3, adds that the act of communicating the coordinate measurement data is performed during the act of the machine tool controller executing the machine tool program. In Matsumiya, coordinate measurement data is not

communicated while the machine tool controller executes a machine tool program to produce the coordinate data because the machine tool controller of Matsumiya does not produce any coordinate measurement data.

Claim 5 depends from claim 3 and recites that the dimensional metrology analysis module analyzes the coordinate measurement data. Claim 6 depends from claim 5 and recites generating an additional machine tool program based on results of analyzing the coordinate measurement data. Claim 7 recites that the additional machine tool program comprises instructions to control a machine tool to perform coordinate measurements. As discussed above, no machine tool program comprising instructions to control a machine tool to perform coordinate measurements is taught or suggested in Matsumiya.

Claim 9, which depends from claim 6, recites that the additional machine tool program comprises instructions to control a machine tool to perform coordinate measurements and machining operations. The machine tool programs described in Matsumiya relate only to machining operations and not to the performance of coordinate measurements.

Claim 12, which depends from claim 1, recites communicating the machine tool program to the machine tool controller. Any machine tool programs that are communicated to the machine tool controller in Matsumiya do not include instructions to control the machine tool to perform coordinate measurements, and there is no suggestion in Matsumiya to communicate such a machine tool program. Again, the lack of such a teaching or suggestion is not surprising because the machine tool of Matsumiya is used for machining, but not for performing coordinate measurements.

Claim 15, which depends from claim 1, recites that the act of generating the machine tool program comprises an act of selecting one of a plurality of machine definitions, each machine definition providing values for one or more parameters of a machine tool. Matsumiya does not teach or suggest selecting a plurality of machine definitions as part of generating a machine tool program that includes instructions to control a machine tool to perform coordinate measurements.

Claim 22, which depends from claim 1, recites that the act of generating the machine tool program comprises an act of removing dimensional metrology program commands from the

dimensional metrology program. Matsumiya does not teach or suggest removing dimensional metrology program commands from a dimensional metrology program.

For at least these additional reasons, withdrawal of the rejections of these dependent claims is respectfully requested.

Independent Claims 28, 31, 55, 57, 76-78, 84, 86, 92 and 93

With the exception of claim 79, the remaining independent claims (28, 31, 55, 57, 76-78, 84, 86, 92 and 93) are various system, method and computer-readable medium claims, and each of these claims recites a limitation in which an act or an element either generates or leads to the generation of a machine tool program including instructions to control a machine tool to perform coordinate measurements. Accordingly, withdrawal of the rejections of these independent claims and the claims that depend therefrom is respectfully requested for the reasons discussed above with respect to claim 1.

Independent Claim 79

Independent claim 79 recites a method comprising generating, from a dimensional metrology program, a self-contained machine tool program that is executable on a machine tool controller to perform coordinate measurements without interaction with a program generator. The system described in Matsumiya does not teach or suggest a program that is executable on a machine tool controller to perform coordinate measurements. In Matsumiya, an NC apparatus (25) controls machine tool (26), while a measurement control apparatus (32) controls measuring machine (31). The machine tool in Matsumiya does not perform coordinate measurements, and thus any machine tool program described in Matsumiya is not executable on a machine tool controller to perform coordinate measurements. Accordingly, withdrawal of this rejection is respectfully requested. Each of claims 80-83 depends either directly or indirectly from independent claim 79, and withdrawal of these rejections is respectfully requested for at least the same reasons provided above for independent claim 79.
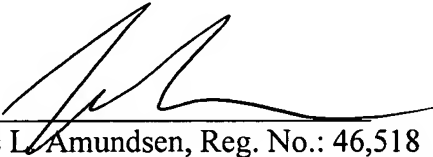
In view of the above, it is believed that the pending application is in condition for allowance.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, any necessary extension of time is hereby requested. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

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